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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,530	01/31/2001	Richard Dudley Baertsch	RD-27,947	2867

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GENERAL ELECTRIC COMPANY
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EXAMINER
AZARIAN, SEYED H

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 09/16/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/774,530	BAERTSCH ET AL.	
	Examiner	Art Unit	
	Seyed Azarian	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-73* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-73* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5-17, 19-28, 30-41, 43-66 and 68-73, are rejected under 35 U.S.C. 103(a) as being unpatentable over Polichar et al (U.S. patent 6,205,199) in view of Murthy et al (U.S. patent 6,055,295).

Regarding claim 1, Polichar et al discloses the pixel-correlated, digital X-ray imaging system comprising;

First and second clocks respectively operating at first and second clock frequencies; (column 18, lines 20-31, the pixel clock generator 152, provides a variable frequency pixel clock);

An image detection interface receiving image data at the first clock frequency, (column 13, lines 52-65, refer to detecting a image frequency);

A control unit controlling communication of the image data from the image detection interface within the detector framing node, and a computer communication interface

communicating the image data to the host memory at the second clock frequency (column 4, lines 63 through column 5, line 8, image processing and communication with the controller and controller includes a buffer memory also column 12, line 65 through column13, line 11, refer to communication and host memory).

However Polichar et al is silent about "node". On the other hand Murthy et al teaches (column 6, lines 28-38, a node tree, which has high accuracy on hundreds of thousands of unseen data points, indicates that the features used are appropriate for classification).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to modify Polichar et al invention according to the teaching of Murthy et al because it provides X-ray beam to the object of interest which eliminates scattered radiation and improve the imaging quality of the object of interest.

Regarding claim 2, Polichar et al discloses the detector framing node, wherein said image detection interface is a fiber optic interface receiving the image data from an image detection system over an optical fiber data link (column 7, lines 1-11, fiber optic cable and or RF wireless transmission).

Regarding claim 3, Polichar et al discloses the detector-framing node, wherein the image data is received in real time (column 2, liens 54-67 refer to real-time).

Regarding claim 5, Polichar et al discloses the detector framing node, further comprising: a memory unit to receive and store the image data received by the
image detection interface, wherein the control unit reads out the stored image data from the memory unit during communication to the host memory (column 12, line 65 through column13, line 11, refer to communication and host memory).

Regarding claim 6, Polichar et al discloses the detector framing node, wherein the memory unit comprises a plurality of frame buffer memory units (column 4, lines 63 through column 5, line 8, image processing and communication with the controller and controller includes a buffer memory).

Regarding claim 7, Polichar et al discloses the detector framing node, wherein the detector framing node is a PCI card, and each of the frame buffer memory units is comprised of a pair of random access memory chips alternately disposed on alternate sides of the PCI card (Fig.15, column 22, lines 56-64, refer to controller board).

Regarding claim 8, Polichar et al discloses the detector framing node, further comprising, a third clock respectively operating at a third clock frequency, wherein the control unit controls communication of the image data from the image detection interface to the computer communication interface at the third clock frequency (Fig. 10, column 18, lines 12-20, refer to different clock).

Regarding claim 9, Polichar et al discloses the detector-framing node, wherein the first, second, and third clocks are respectively controlled by oscillations from a single clock oscillator (column 10, lines 23-35, refer to synchronization and oscillator).

Regarding claim 13, Polichar et al discloses the detector framing node, wherein the host computer runs a task based operating system (column 14, lines 29-35, the control unit 16 and related imaging task).

Regarding claim 14, Polichar et al discloses the detector framing node, wherein the image data is radioscopic image data and the image detection system is an x-ray detection system (column 6, lines 1-11, the X-ray source).

Regarding claim 16, Polichar et al discloses the detector framing node card, wherein said image detection interface is a fiber optic interface receiving the image data from the image detection system over an optical fiber data link (column 7, lines 1-11, fiber optic cable and or RF wireless transmission).

Regarding claim 22, Polichar et al discloses the detector framing node card, wherein the detector framing node card is a PCI card, and the computer communication bus is a PCI bus operating at a frequency of at least 33 MHz (column 11, lines 20-31, clock speed of about 33 Mhz).

Regarding claim 26, Polichar et al discloses the detector-framing node, wherein image data is radioscopic image data and the image detection system is an x-ray detection system (Fig. 13, column 5, lines 47-51, the radioscopic).

Regarding claim 31, Polichar et al discloses a detector framing node to communicate image data with a host memory of a host computer, comprising, an image detection interface receiving image data from an image detection system a control unit controlling communication of the image data from said image detection interface within the detector framing node; and a computer communication interface communicating the image data to the host memory (column13, line 11, refer to communication and host memory).

Regarding claim 40, Polichar et al discloses an imaging system, comprising; an image detection system to detect a radiographic image and output corresponding radioscopic image data across an optical fiber data link; a detector framing node comprising a fiber optic interface to receive the radioscopic image data from the optical fiber data link and a computer communication interface to output the image data received by the fiber optic interface onto a

computer communication bus (see claim 1 and Fig. 1, column 5, lines 15-18, radiographic image).

Regarding claim 50, Polichar et al discloses a detector framing node interfacing with a host computer along a computer communication bus and interfacing with a radiation generation system along a real time bus, the detector framing node comprising; a control unit to execute a plurality event instructions received from the host computer; a real time bus interface connecting said control unit to the real time bus, wherein said control unit controls the radiation generation system by transmitting control signals to the radiation generation system along the real time bus upon execution of the event instructions (see claim 1, and column 4, lines 41-51, refer to X-ray radiation).

Regarding claim 52, Polichar et al discloses the detector framing node, further Comprising; an image detection interface receiving image data from an image detection system; and a computer communication interface communicating the image data received from the image detection interface to a host memory of the host computer under control of said control unit (column 4, lines 41-58, digitized pixels transmitted by serial interface).

Regarding claim 64, Polichar et al discloses the card, wherein the card is programmable to receive image data from a selected flat panel detector of a plurality of different flat panel detectors (Fig. 6, column 5, lines 27-30, refer to flat panel).

Regarding claims 10, 15, 19, 27, 34, 35, 43, 55, 61, 63 and 65, recites similar limitation as claims 1 and 2, are similarly analyzed.

Regarding claims 11-12, 17, 24, 30, 37, 47, 53-54, 59, 66, 68 and 70, recites similar limitation as claims 2 and 3, are similarly analyzed.

Regarding claims 20 and 21, recites similar limitation as claims 8 and 9, are similarly analyzed.

Regarding claims 23, 28, 36, 41, 46, 58 and 69, recites similar limitation as claims 3, 4 and 8, are similarly analyzed.

Regarding claims 25, 32, 38, 48, 60 and 71, recites similar limitation as claims 13 and 31, are similarly analyzed.

Regarding claims 33, 45, 57 and 73, recites similar limitation as claim 7, are similarly analyzed.

Regarding claims 39, 44, 56, recites similar limitation as claims 5 and 26, are similarly analyzed.

Regarding claims 49, 51, 62 and 72, recites similar limitation as claims 14, 40 and 50, are similarly analyzed.

3. Claims 4, 18, 29, 42 and 67, are rejected under 35 U.S.C. 103(a) as being unpatentable over as applied to claims 1-3, 5-17, 19-28, 30-41, 43-66 and 68-73, and further in view of Aratani (U.S. 6,249,503).

Regarding claim 4, Polichar et al fails to disclose "Gibit/sec". On the other hand Aratani teaches (Fig. 1, column 5, lines 35-44, to detect an information signal recorded at a density of 1 Gbit/cm2 or more).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to modify Polichar et al and Murthy et al invention according to the

teaching of Aratani because it provides recording reproduction with a memory to be developed is desired to have a size smaller than the above value and efficiency of low bit cost.

Regarding claims 18, 29, 42 and 67, recites similar limitation as claim 4, are similarly analyzed.

Other prior art cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. patent (5,949,848) to Gilblom is cited for X-ray imaging apparatus and method using a flat amorphous silicon imaging panel.

U.S. patent (4,672,454) to Cannella et al is cited for X-ray image scanner and method.

U.S. patent (4,996,413) to McDaniel et al is cited for apparatus and method for reading data from an image detector.

U.S. patent (6,330,356) to Raylman et al is cited for radiation sensitive surgical probe with interchangeable tips.

U.S. patent (6,243,441) to Zur is cited for active matrix detector for X-ray imaging.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (703) 306-5907.

The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached at (703) 308-5246.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

Or faxed to:

(703) 872-9306, ("draft" or "informal" communications should be clearly labeled to expedite delivery to examiner).

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to T.C. customer service office whose telephone number is (703) 305-1202.

Jayanti K. Patel
Primary Examiner

Seyed Azarian
Patent Examiner
Group Art Unit 2625
September 8, 2003